



Sonoma Water

Clean. Reliable. Essential. Every day.

Russian River Estuary Management Project - Pinniped Monitoring Update

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Pinniped Monitoring

Long term data set

- Beginning in 2009
- 909 total surveys
 - ~ 3800 total hours

Citizen Science

- 1500 hours of community engagement
- 40 volunteers
- Annual training opportunities



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Harbor seal

Phocid or “true” seal

- Streamline body
- Males and females about the same size
- No external ear flaps
- Two color phases
- Not migratory

Circumpolar distribution

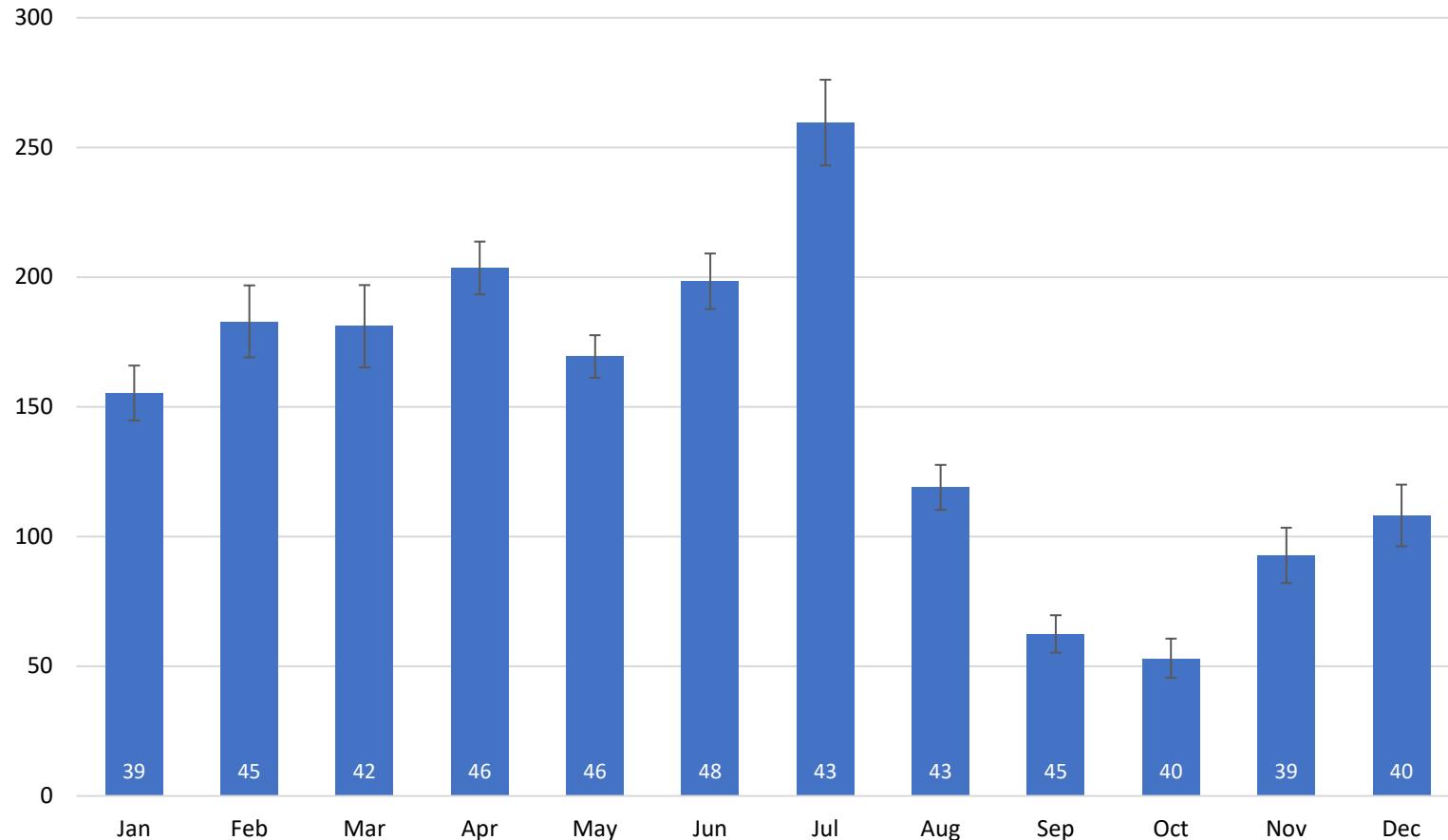


Figure: NOAA
Fisheries

California population estimate
~31,000 (from 2012 survey)



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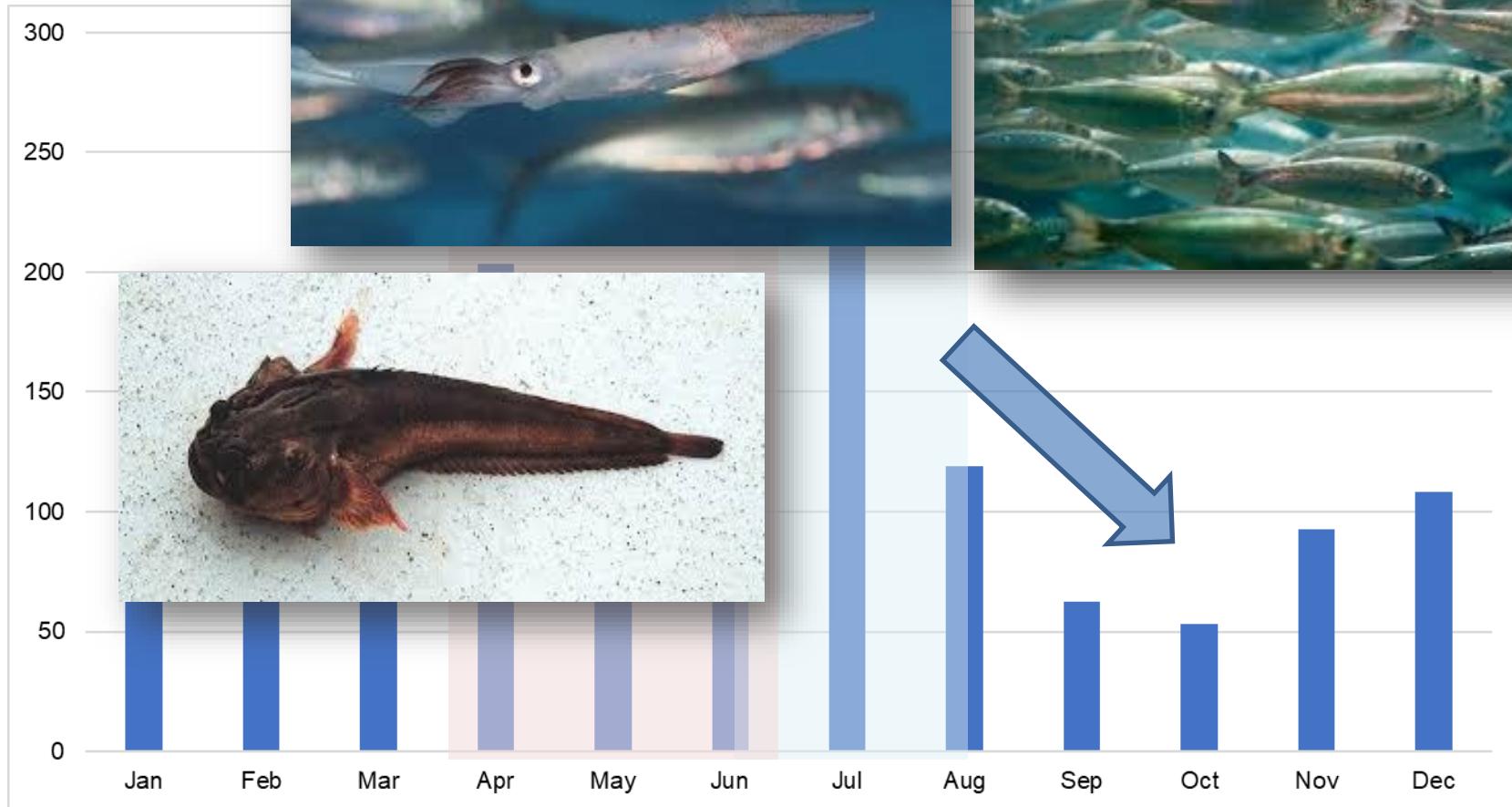


Seasonal Patterns

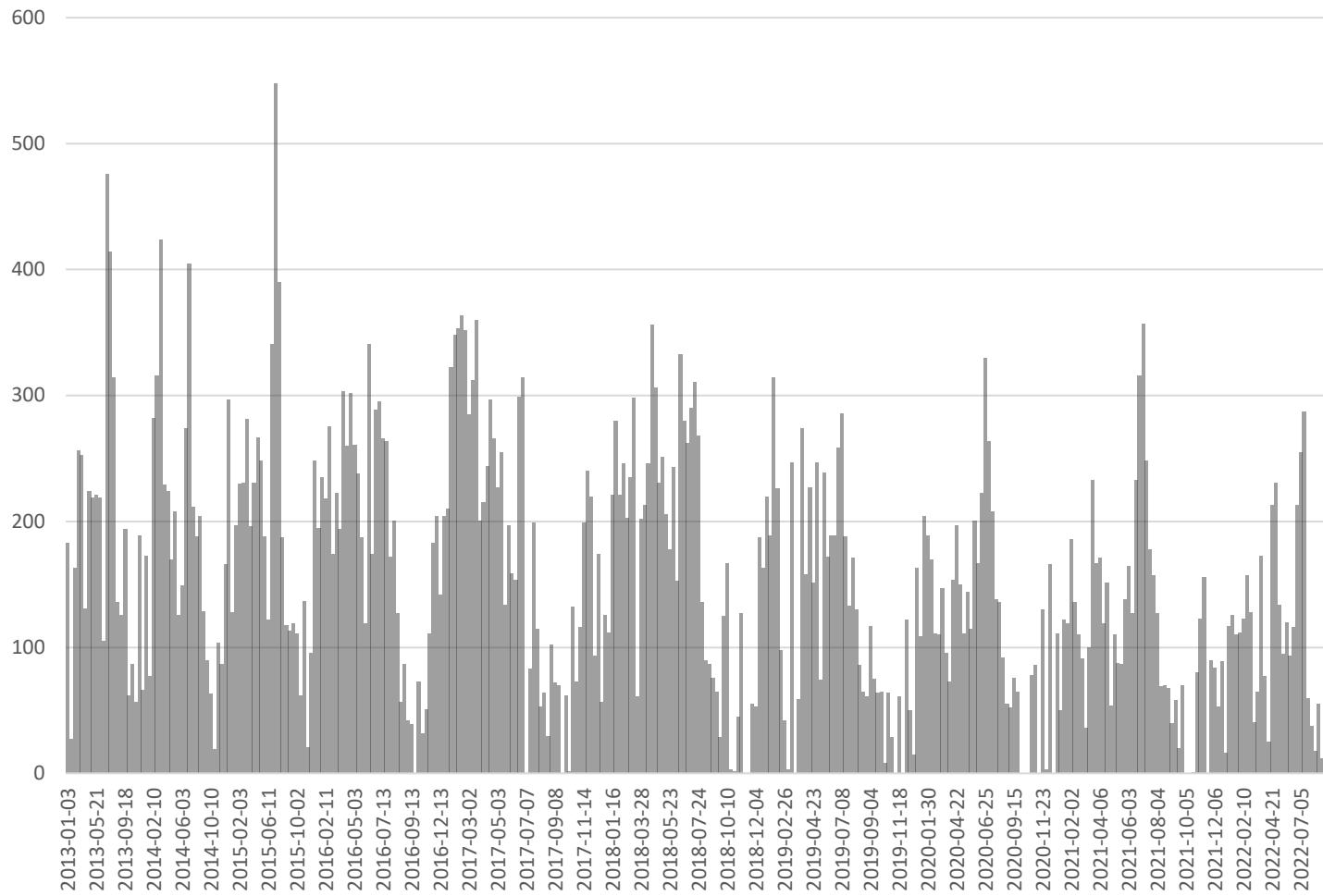


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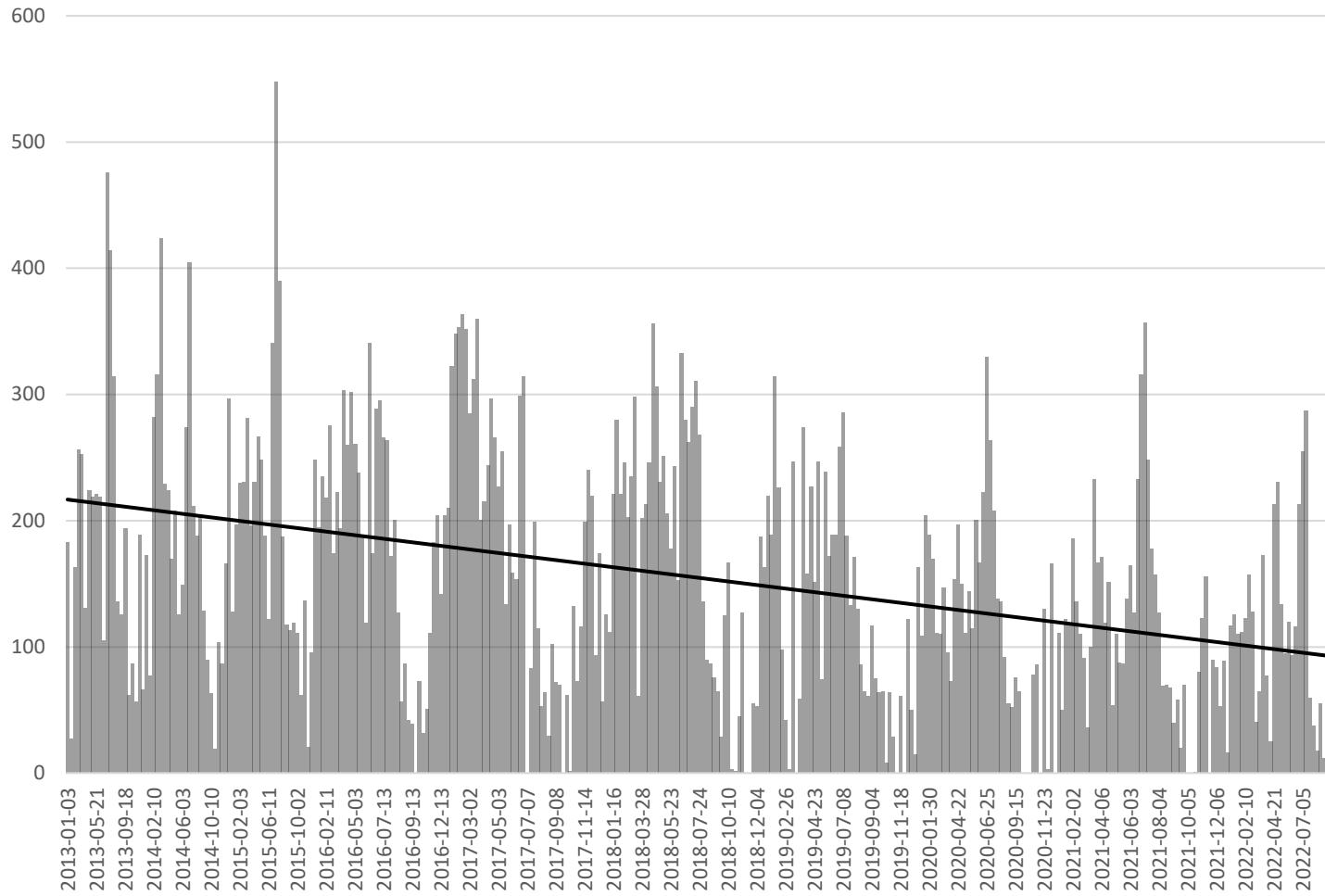
Seasonal Patterns



Trends in abundance



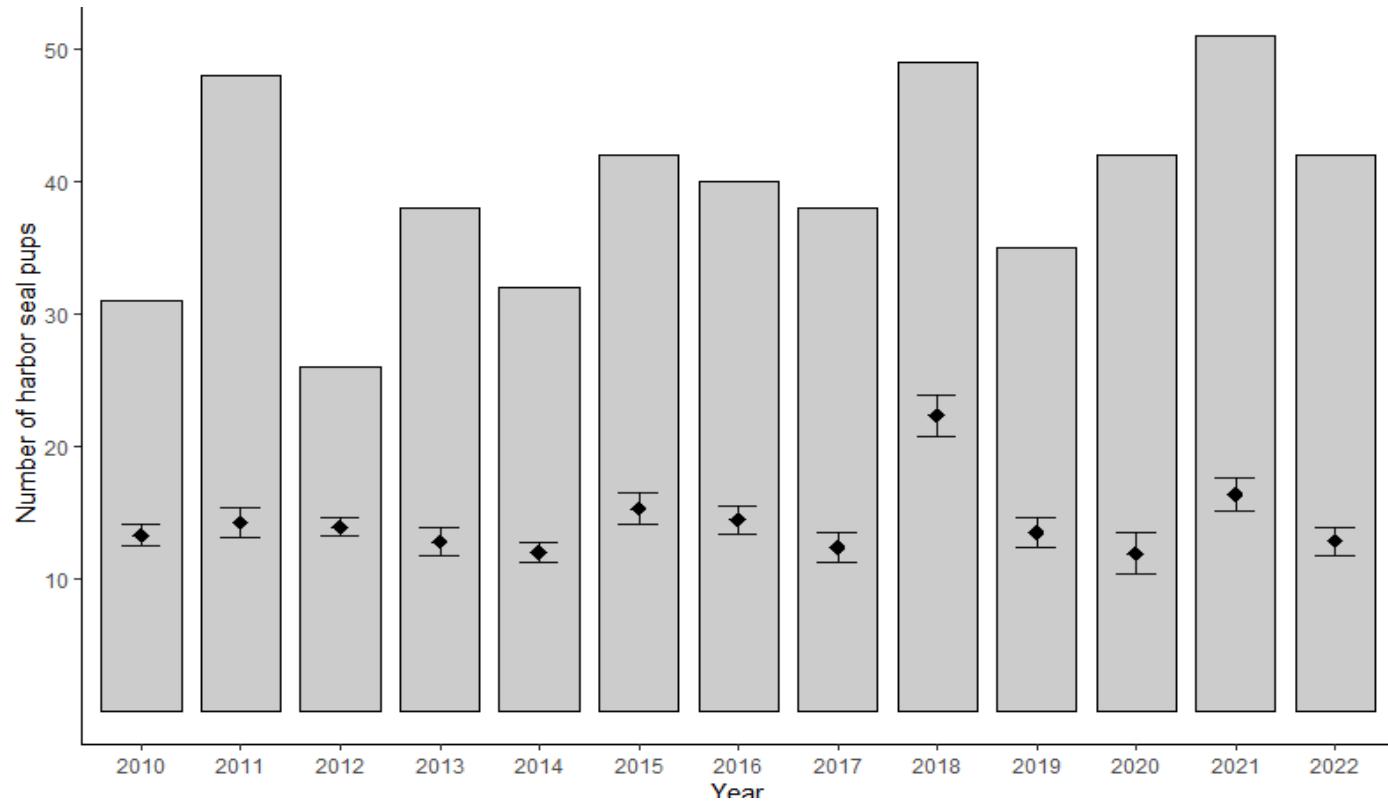
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Trends in abundance

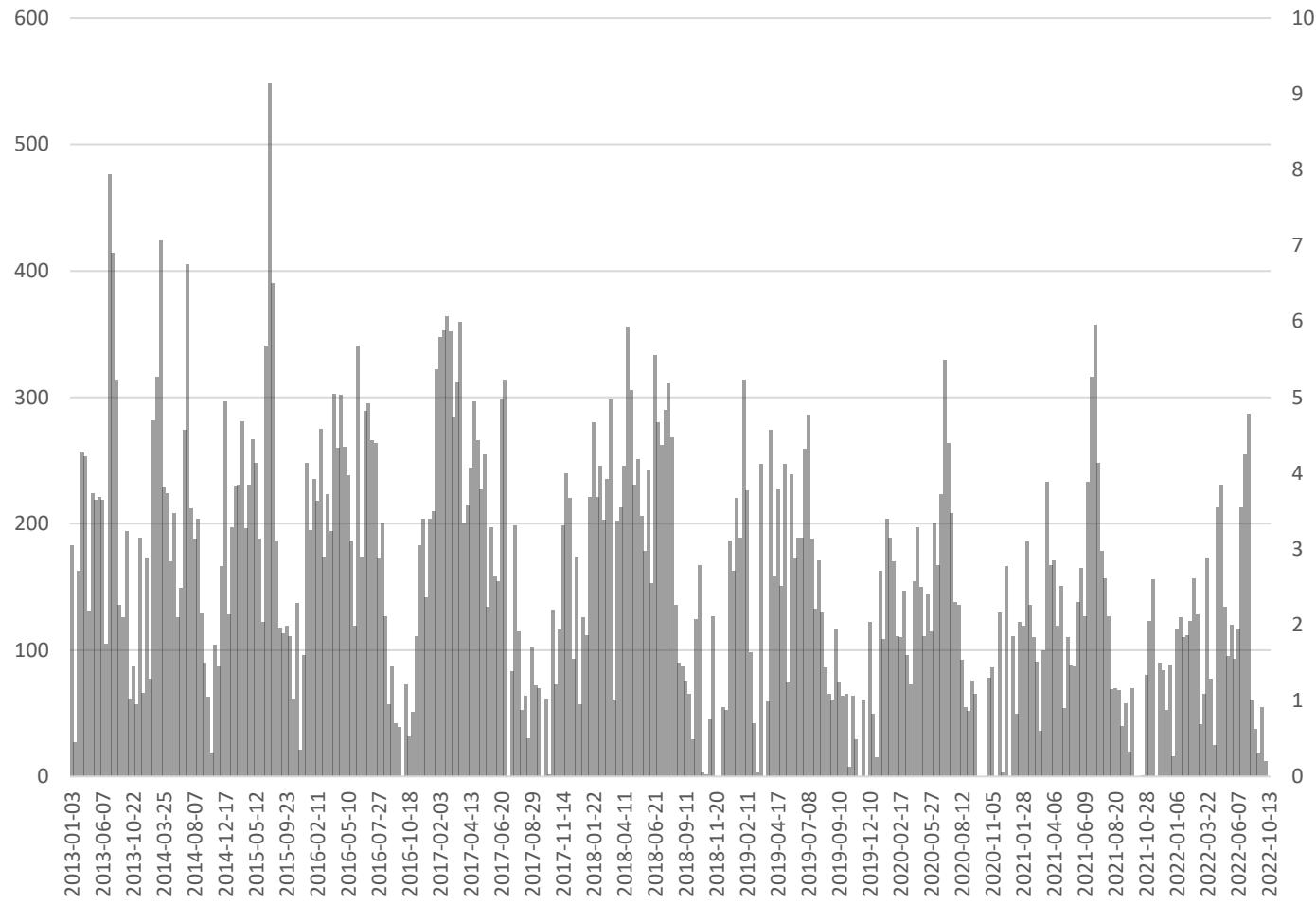


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Source
Water

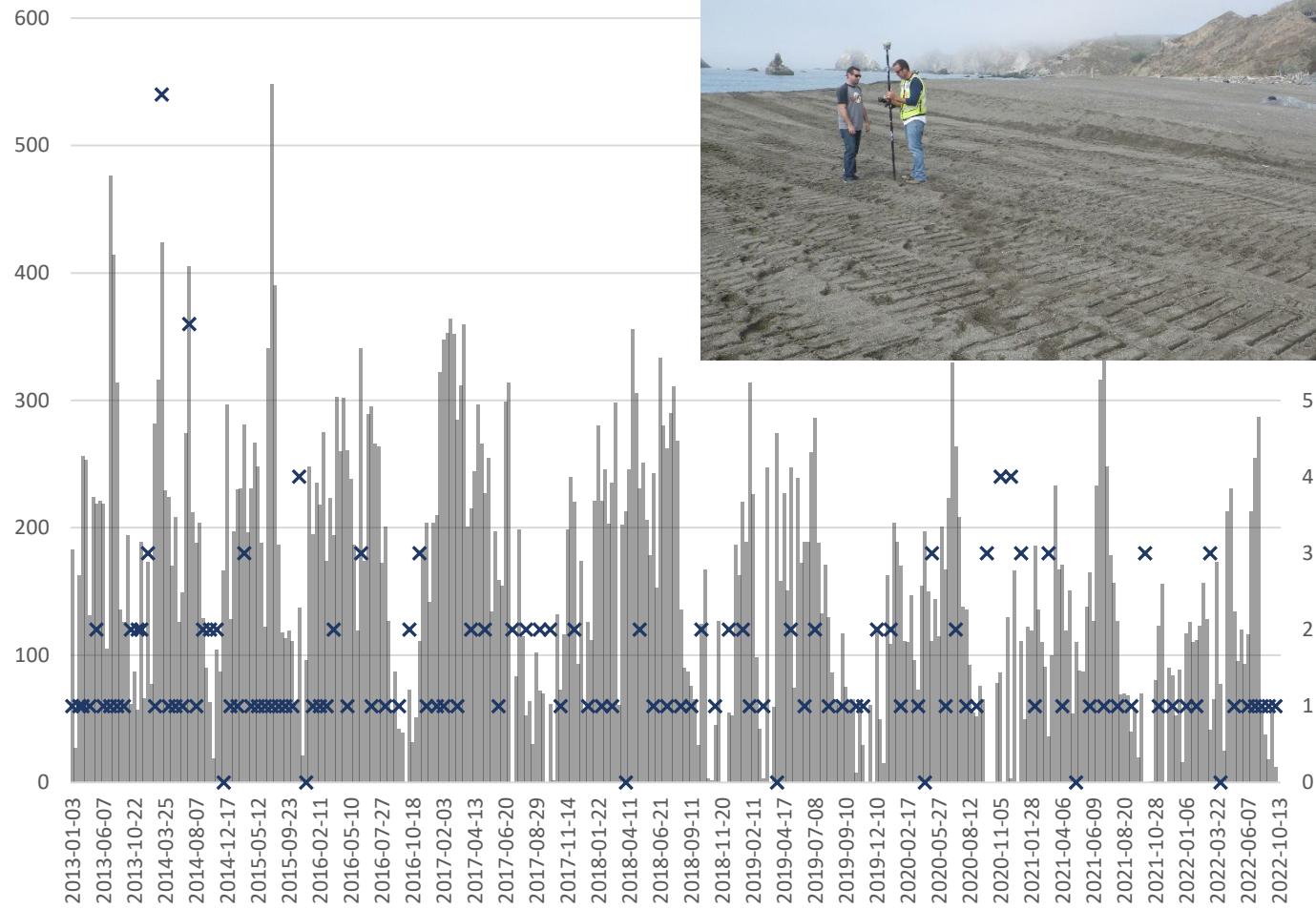
Seal pups



Sonoma Water Activities



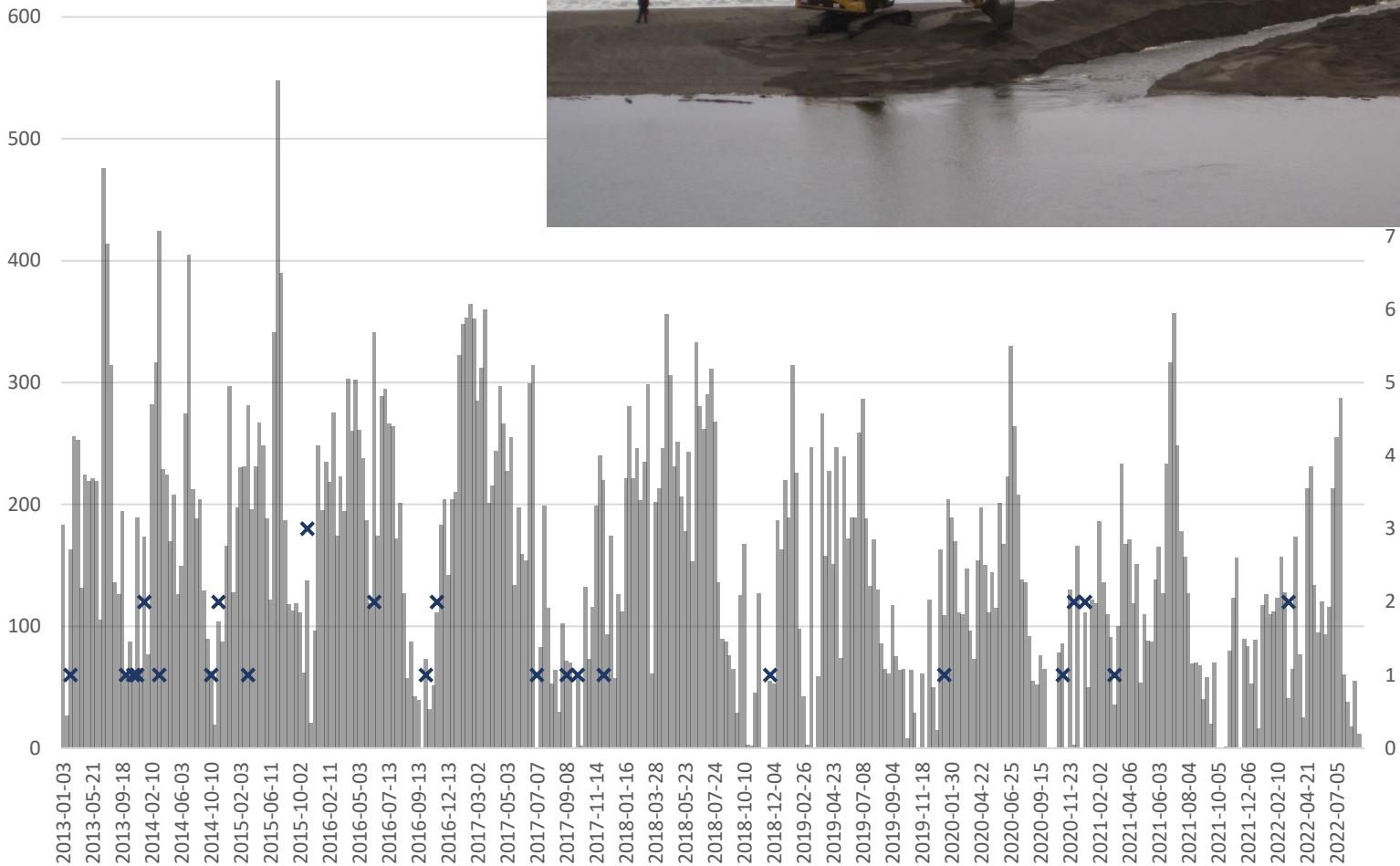
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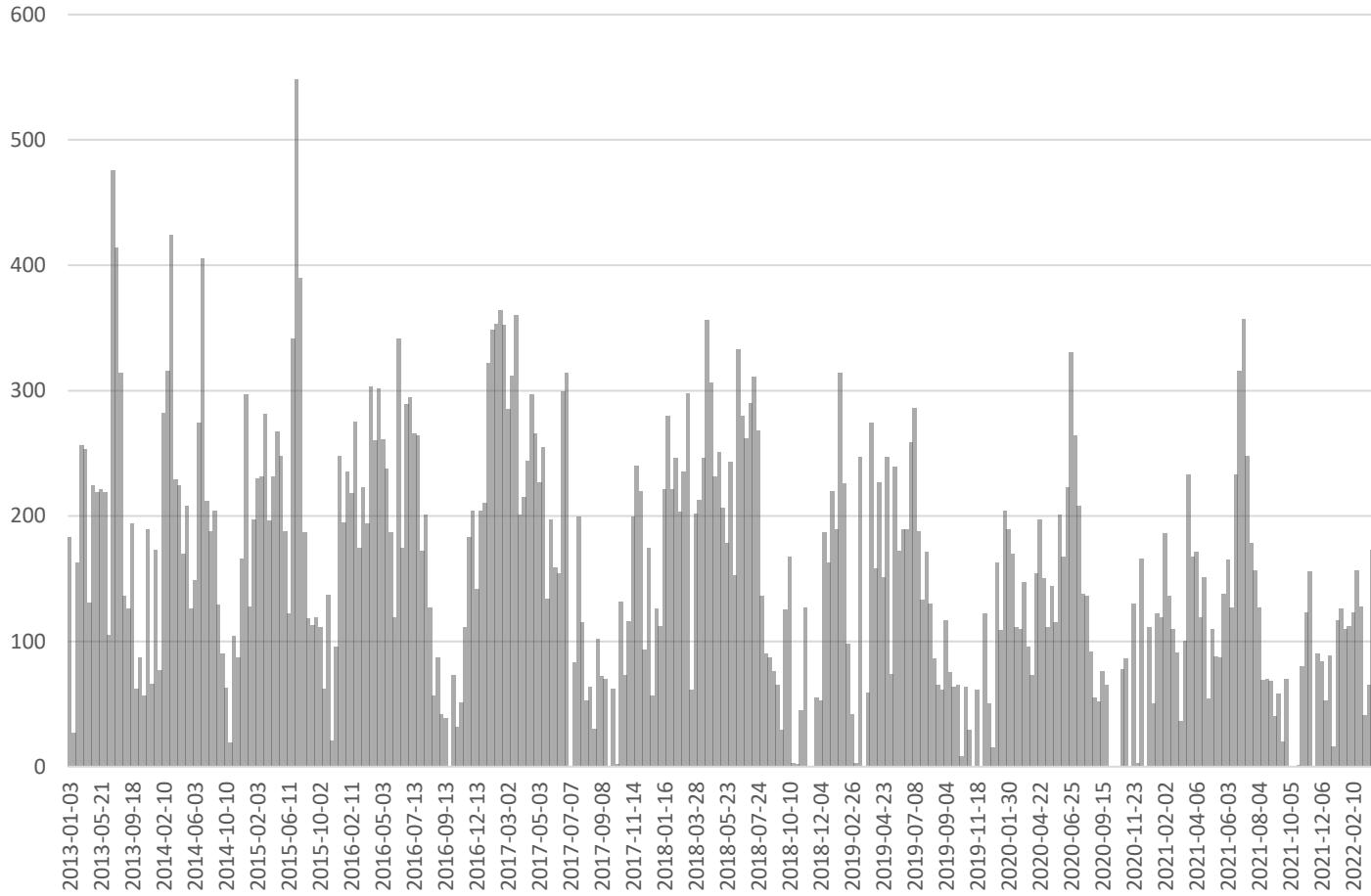


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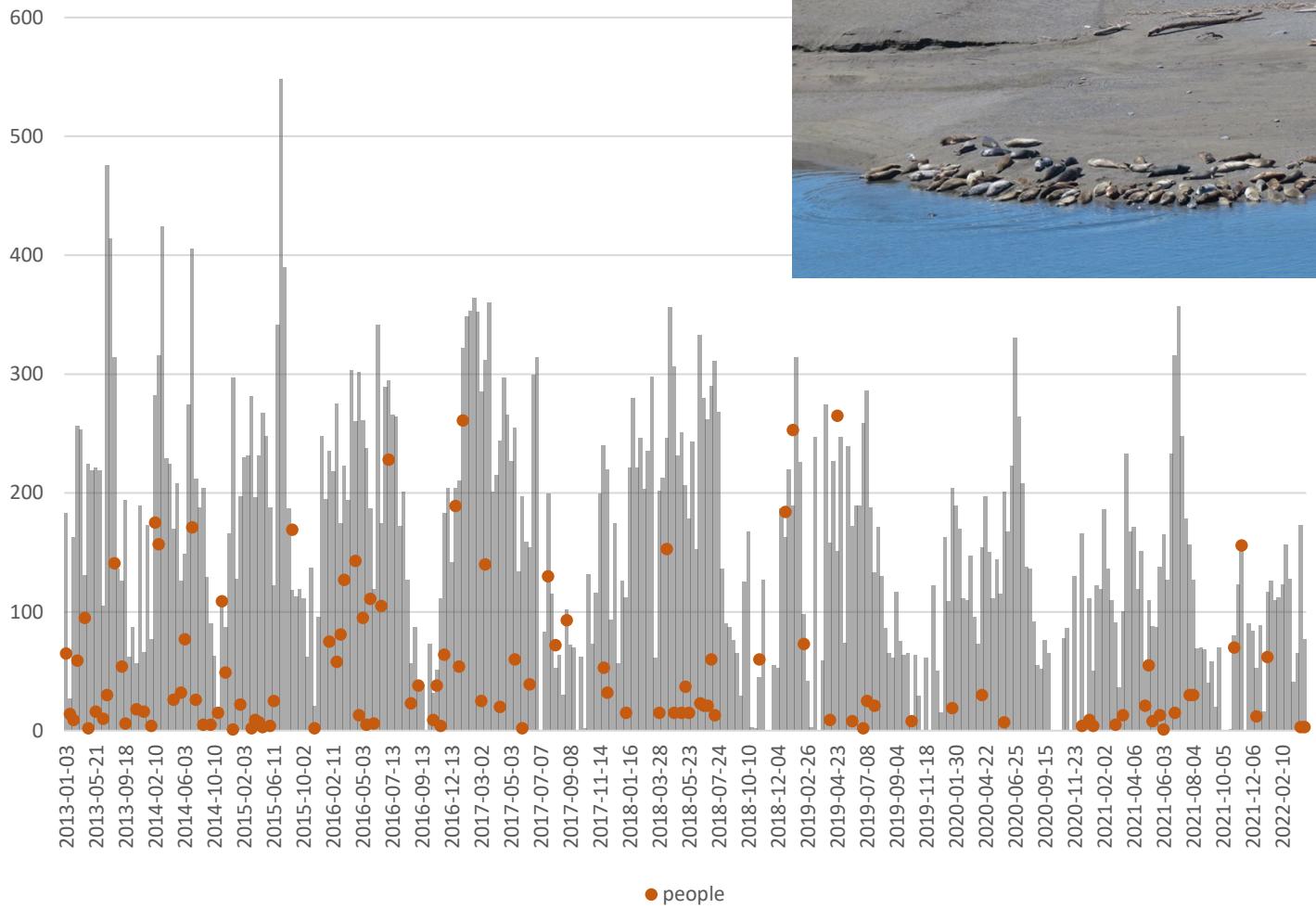
Beach Management Actions



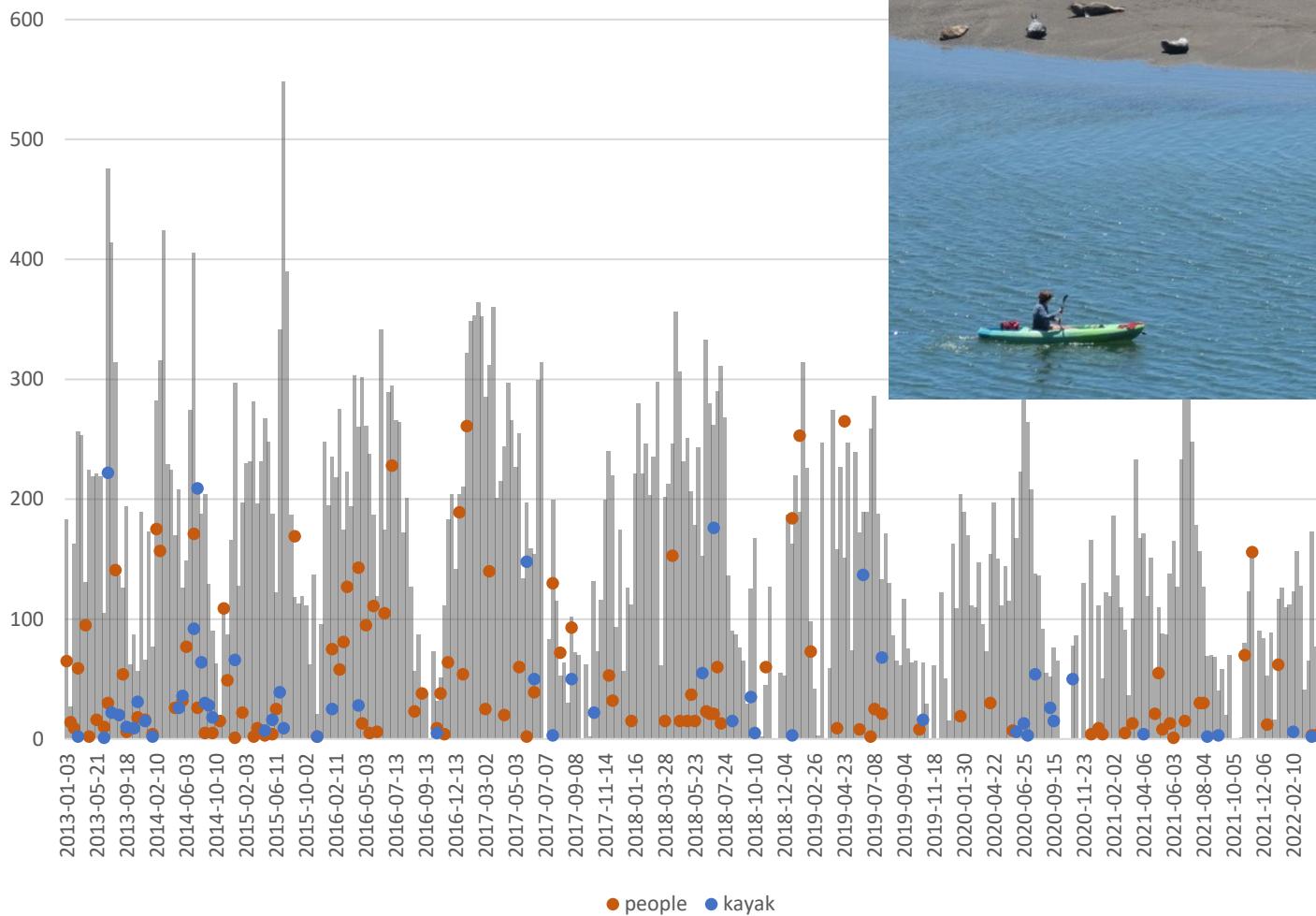


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Disturbance



Disturbance

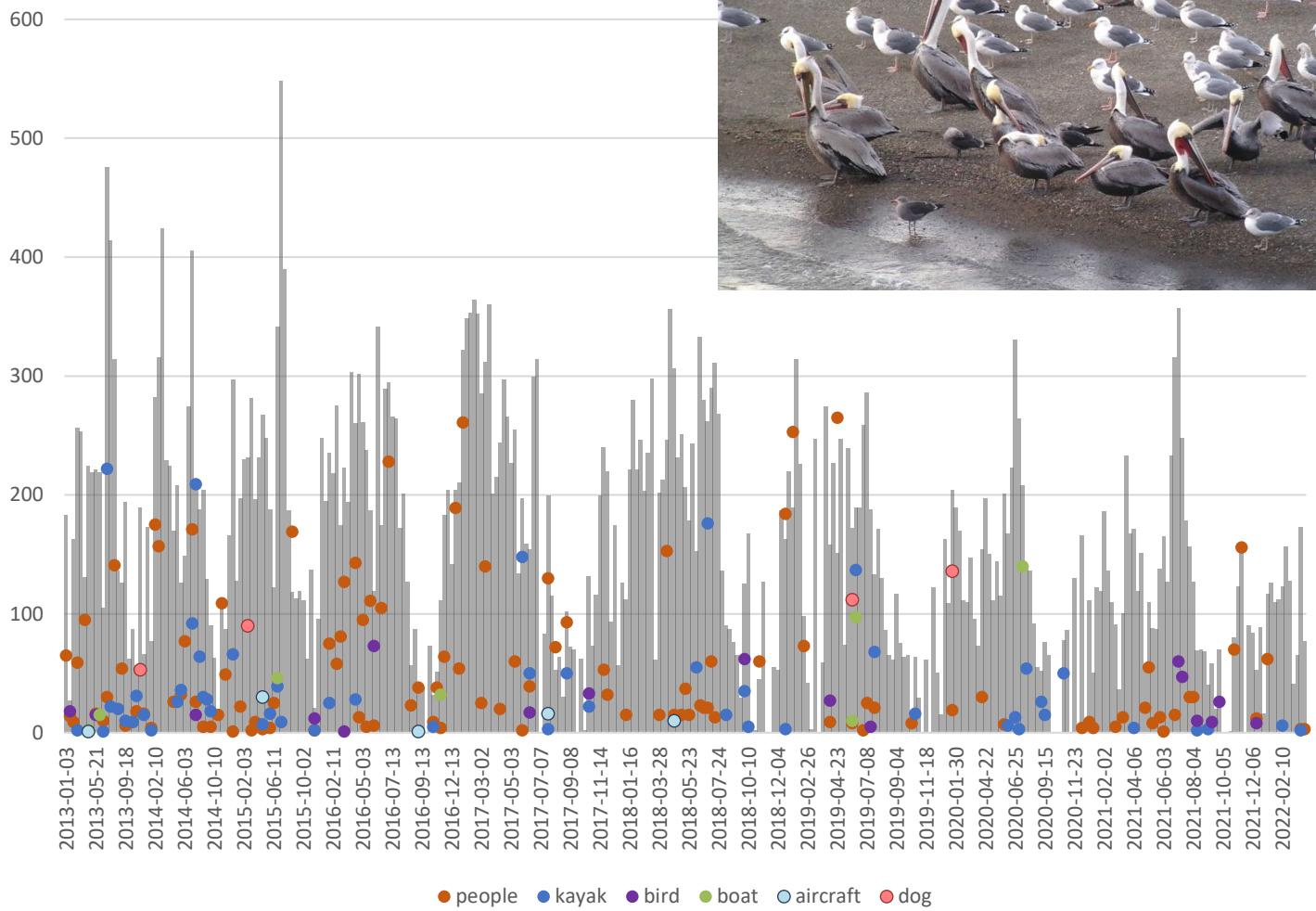


● people ● kayak



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Continued monitoring

- Focused baseline surveys
- Volunteer opportunities
- Monitoring during management actions, surveys



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